CLAIM LISTING

1. (Currently Amended) A method implemented in a computer, the method comprising:

receiving an indication of a desired form to be generated for data input;

automatically identifying one or more pre-programmed data input fields to be included on the desired form, the automatically identifying including:

identifying one or more interactions associated with a business logic, wherein the business logic processes requests subsequently submitted via a form resulting from the desired form, wherein each interaction is associated with a pre-programmed request for the business logic and includes one or more command definitions to process the request submitted via the form resulting from the desired form; and

identifying, in the one or more interactions, one or more attributes that are not obtained by the one or more interactions elsewhere; and

generating, after automatically identifying the one or more data input fields, a form definition including the automatically identified one or more pre-programmed data input fields.

2. (Currently amended) A method as recited in claim 1, further comprising automatically identifying, for each of the one or more pre-programmed data input fields, one or more restrictions to be imposed on the data subsequently input via the pre-programmed data field.

3.   (Currently amended)   A method as recited in claim 2, wherein automatically identifying the one or more restrictions comprises requesting, from a business logic, an identification of the one or more restrictions and receiving, from the business logic, the identification of the one or more restrictions, and wherein the business logic processes pre-programmed requests subsequently submitted via the form.

4.   (Currently amended)   A method as recited in claim 2, wherein automatically identifying the one or more restrictions comprises:

identifying one or more interactions associated with a business logic, wherein the business logic processes pre-programmed requests subsequently submitted via the form, and wherein each interaction is associated with a request and includes one or more command definitions to process the request; and

identifying, in the one or more interactions, one or more attributes that are not obtained by the one or more interactions elsewhere.

5.   (Currently amended)   A method as recited in claim 1, wherein automatically identifying the one or more pre-programmed data input fields comprises requesting, from a business logic, an identification of the one or more pre-programmed data input fields, wherein the business logic processes requests subsequently submitted via the form.

6.   (Canceled).

7.   (Currently amended) A method as recited in claim 1, wherein each of the one or more pre-programmed data input fields comprises a user input field.

8.   (Currently amended) A method as recited in claim 1, wherein the automatically identifying comprises communicating with a business logic to identify the one or more <u>pre-programmed</u> data input fields.

9.   (Original) A method as recited in claim 8, wherein the business logic comprises a plurality of interactions to process requests, and wherein the indication comprises an identification of one of the plurality of interactions.

10.   (Currently amended) A method comprising:

automatically identifying one or more<u> pre-programmed</u> restrictions associated with a data input field, the automatically identifying including:

communicating with a business logic to identify the one or more <u>pre-programmed</u> restrictions, wherein the business logic processes<u> pre-programmed</u> requests which are subsequently submitted via a generated form, the communicating including identifying one or more processing interactions, wherein each processing interaction is associated with a request and includes one or more command definitions to process the request, and identifying, in the one or more processing interactions, one or more attributes that are not obtained by the one or more processing interactions elsewhere; and

using, after automatically identifying the one or more <u>pre-programmed</u> restrictions, the one or more <u>pre-programmed</u> restrictions and the field to generate a text markup language form definition for use with the generated form.

11.   (Canceled).

4

12.   (Currently amended) A method as recited in claim 10, wherein the communicating further comprises requesting, from the business logic, an identification of the one or more pre-programmed restrictions and receiving, from the business logic, the identification of the one or more pre-programmed restrictions.

13.   (Canceled).

14.   (Original) A method as recited in claim 10, further comprising:
automatically identifying the data input field to be included in the text markup language form.

15.   (Previously Presented) A method as recited in claim 14, wherein automatically identifying the data input field comprises requesting, from a business logic, an identification of the data input field, wherein the business logic processes requests subsequently submitted via the generated form.

16.   (Previously Presented) A method as recited in claim 14, wherein automatically identifying the data input field comprises:
identifying one or more processing interactions associated with the business logic, wherein each processing interaction is associated with a request and includes one or more command definitions to process the request; and
identifying, in the one or more processing interactions, one or more attributes that are not obtained by the one or more processing interactions elsewhere.

17. (Currently amended) A method as recited in claim 14, wherein automatically identifying the one or more pre-programmed restrictions comprises automatically identifying that a data input to the automatically identified data input field is required when submitting the form.

18. (Original) A method as recited in claim 10, wherein the data input field is for user input of data.

19. (Original) A method as recited in claim 10, wherein the data input field comprises one of the following fields: a text input field, a password input field, a checkbox field, a button field, a radio button field, a drop down field, and one or more values of a selection field.

20. (Currently amended) One or more computer-readable media comprising computer-executable instructions that, when executed, direct a processor to perform acts comprising:

determining one or more attributes that are used by a business logic but not obtained by the business logic elsewhere, wherein the determining is based at least in part on one or more processing interactions associated with the business logic, each of the one or more processing interactions being associated with a pre-programmed request to be processed by the business logic and including one or more command definitions to process the pre-programmed request;

using, after determining the one or more attributes, each of the one or more attributes to define a field of a form definition, the field being used to obtain data input into a form to be generated; and

including validation code in the form definition associated with the defined one or more fields, wherein the validation code, when executed, verifies that data is input to the defined field.

21. (Original) One or more computer-readable media as recited in claim 20, wherein the data input comprises data input by a user.

22. (Original) One or more computer-readable media as recited in claim 20, wherein the computer-executable instructions further direct the processor to perform acts including:

identifying additional restrictions to be imposed on data input via the field; and

including additional validation code corresponding to the additional restrictions and associated with the defined one or more fields, wherein the additional validation code, when executed by another processor, causes the other processor to verify that the additional restrictions are satisfied.

23. (Original) One or more computer-readable media as recited in claim 22, wherein identifying additional restrictions comprises requesting, from the business logic, an identification of the additional restrictions and receiving, from the business logic, the identification of the additional restrictions.

24. (Original) One or more computer-readable media as recited in claim 20, wherein the computer-executable instructions further direct the processor to perform acts including:

identifying restrictions to be imposed on data input via one or more additional fields on the form; and

including additional validation code corresponding to the additional restrictions and associated with the one or more additional fields, wherein the additional validation code, when executed by another processor, causes the other processor to verify that the additional restrictions are satisfied.

25.   (Original) One or more computer-readable media as recited in claim 20, wherein the computer-executable instructions further direct the processor to perform acts including:

identifying additional restrictions to be imposed on data input via the field; and

including additional validation code corresponding to the additional restrictions and associated with the defined one or more fields, wherein the additional validation code, when executed by the processor, causes the processor to verify that the additional restrictions are satisfied.

26.   (Currently amended) A system comprising:

a tag library to store validation code that, when included in a form definition and executed from the form definition, verifies that an input to an associated data input field of a generated form defined by the form definition satisfies one or more restrictions; and

a form processor configured to automatically identify one or more pre-programmed restrictions to be associated with a data input field of the generated form, and further configured to add to the form definition, after the automatic identification of the one or more pre-programmed restrictions, validation code from the tag library to verify that a subsequent input to the data field satisfies the one or more automatically identified restrictions, wherein the form processor is configured to automatically identify the one or more pre-programmed restrictions by:

identifying one or more processing interactions associated with a business logic, wherein the business logic processes requests subsequently submitted via the generated form; and

identifying, in the one or more interactions, one or more attributes that are not obtained by the one or more interactions elsewhere.

27.   (Currently amended) A system as recited in claim 26, wherein the form processor includes an attribute restriction identification module configured to automatically identify the one or more ~~pre-programmed~~ restrictions, and a tag replacement module to automatically include, in the form definition, the validation code to verify that the subsequent input to the data field satisfies the one or more automatically identified restrictions.

28.   (Canceled).

29.   (Currently amended) A system as recited in claim 26, wherein the form processor is further configured to:

identify one or more processing interactions associated with a business logic, wherein the business logic processes ~~pre-programmed~~ requests subsequently submitted via the generated form;

identify, in the one or more processing interactions, one or more attributes that are not obtained by the one or more processing interactions elsewhere; and

identify one or more additional data input fields to be included in the generated form based at least in part on the identification of the one or more attributes not obtained by one or more processing interactions elsewhere.

30.   (Original) A system as recited in claim 26, wherein the input is a user input.

31.   (Canceled).

32.   (Canceled).

33.   (Canceled).

34.   (Currently amended) An architecture comprising:

a business logic layer to process requests received from a client; and

an execution environment layer via which a form processing module can communicate with the business logic layer, wherein the form processing module obtains, from the business logic layer, an indication of one or more pre-programmed restrictions on data input to a form for a request to be subsequently processed by the business logic layer, and adds the one or more pre-programmed restrictions to a form definition for the form.

35.   (Original) An architecture as recited in claim 34, wherein the data input field is for user input of data.

36.   (Currently amended) A method comprising:

accessing a business logic to identify one or more pre-programmed processing interactions associated with the business logic, wherein each pre-programmed processing interaction is associated with a request and includes one or more command definitions for the business logic to process the request;

identifying, in the one or more pre-programmed processing interactions, one or more attributes that are not obtained by the one or more pre-programmed processing interactions elsewhere; and

indicating that the one or more identified attributes are to be obtained via a data input field on a form to be generated, and further indicating that an input for the data input field is needed when submitting the form.

37.   (Original) A method as recited in claim 36, wherein the input comprises a user input.